

REMARKS

Claims 1 and 11-13 have been amended. Thus, claims 1-20 are presented for examination. Support for the amendment to claim 1 may be found in the specification at page 4, line 33 to page 5, line 3; and in Figures 1-8. Thus, no new matter has been added. Reconsideration and withdrawal of the present rejections in view of the amendments and comments presented herein are respectfully requested.

Claim objections

The Examiner objected to the recitation of "the second element" in claim 1, line 4, alleging that it lacked antecedent basis. Applicant respectfully notes that "a second element" is recited in line 3 of claim 1. Thus, the recitation of "the second element" in line 4 has antecedent basis in line 3.

The recitation of "two orthogonal directions" in line 5 of claim 1 was considered vague and indefinite. Claim 1 as amended recites "two different directions that are orthogonal to each other", thus removing any ambiguity.

In view of the amendment and comments presented above, Applicant respectfully requests reconsideration and withdrawal of the claim objections.

35 U.S.C. § 112, second paragraph rejection

The Examiner rejected claims 7-12 and 17 under U.S.C. § 112, second paragraph, as being indefinite based on recitations concerning "4th through 7th set of indicia" (claims 7-12) and "fourth element" (claim 17), because the numeric order was not amended to be consistent with the amendment changing the multiply dependent claims to each individual claim only depending from claim 2. Applicants believe that the Examiner intended to reject claims 10-12 and 17 since claims 7-9 do not recite any set(s) of indicia. Claim 10 depends on claim 6 which recites a third element located between the first and second elements. Claim 10 recites that the second element comprises a third set of indicia, and the third element comprises a fourth set of indicia. Thus, claim 10 is neither vague nor indefinite.

Claims 11-13 have been amended to correctly depend from claims 10, 11, and 6, respectively, thus addressing the Examiner's concerns regarding numeric order.

Claim 17 depends on claim 6 which recites a third element located between the first and second elements. Claim 17 recites that the slide rule further comprises a fourth element. Thus, claim 17 is neither vague nor indefinite.

In view of the claim amendments, reconsideration and withdrawal of the rejection under U.S.C. § 112, second paragraph are respectfully requested.

35 U.S.C. §102(b) rejection

Claims 1-5 were rejected under 35 U.S.C. §102(b) as being anticipated by Hesnan (US 5,524,522). In order for a claim to be anticipated by a reference, each claim element must be found within the reference. Claim 1 as amended recites that the second element is constructed and arranged for movement relative to the first element in "two different directions that are orthogonal to each other". In other words, the second element is movable relative to the first element both in a first direction, and in a second direction that is perpendicular to the first direction. This feature is neither disclosed nor suggested by Hesnan.

In the Office Action at page 4, lines 5-7, the Examiner states that "the claim language 'orthogonal direction' is not clear as to what structure the two directions are orthogonal to", and that "Hesnan shows directions (A and B: figure 1) that are orthogonal to the viewing angle." The amendment to claim 1 addresses this point by reciting that the two different directions are orthogonal to each other (i.e. perpendicular to each other). In contrast, the two directions of movement disclosed by Hesnan (A and B) are parallel to one another (in the same plane). Although Hesnan might show directions of movement that are orthogonal to the viewing angle, the reference does not show two different movements that are orthogonal to each other as recited in amended claim 1.

The Examiner also alleges that Hesnan teaches that the first and second elements comprise concentric substantially cylindrical elements that are constructed and arranged for rotational and axial relative movement as recited in claim 2. Although Hesnan discloses axial movement of cursor template (3) along base (2), nowhere does this reference disclose rotational movement of the cursor about the base. The section of Hesnan cited by the Examiner for the alleged support of rotational movement (col. 4, lines 14-17) states that "the base may be circular in shape, or indeed it may be cylindrical, in which the template is correspondingly

shaped so that it may move on the base to highlight the information sets." This does not imply that the template can be rotated about the base. Thus, the only movement of the template along the base disclosed by this reference is axial (linear) movement, not rotational movement.

In view of the amendment and comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. 102(b).

35 U.S.C. § 103(a) rejections

The Examiner rejected claims 6-14, 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Hesnan in view of Calabro (US 2,958,251); and claims 15, 16, 19 and 20 as being unpatentable over Hesnan in view of Calabro further in view of Colliard (US 4,091,766). However, as described below, these combinations of references would not render the claimed invention obvious.

As discussed above, claims 1-5 are novel in view of Hesnan. In addition, Hesnan does not suggest that the two directions of movement are mutually orthogonal as recited in amended claim 1. In the present invention, this movement in two mutually orthogonal directions is achieved by axial and rotational movement of the inner cylinder relative to the outer cylinder (see Fig. 1). The slide rule is thus able to indicate the not relationships for scales in a number of different keys (by moving the inner cylinder axially), and in a number of different types of scale, mode or chord (by rotating the inner cylinder).

As discussed briefly above, Hesnan describes a slide rule in which the cursor or template (3) can be moved on only one direction relative to the base (2). Although Hesnan states at column 4, lines 14-17 that the base may be circular or cylindrical in shape, there is no suggestion that the cursor or template could move in two mutually orthogonal directions relative to the base. Thus, even if the flat device shown in Figs. 1-5 of Hesnan could be formed into a cylinder, and the cursor element could move axially along the cylinder, there is no suggestion that the cursor could also be arranged to rotate around the cylinder. In fact, since Hesnan discloses that the information is presented on the base in a purely linear fashion, there would be no reason to rotate the cursor since there would be no information (indicia) present on any areas of such a cylinder other than the areas accessed by axially sliding the cursor. Thus, conversion of the linear device of Hesnan into a cylinder would serve no useful purpose, and the skilled artisan would not be motivated to do so. Thus, Hesnan provides no suggestion that

the note relationships of different scales/chords/modes can be indicated by moving the cursor in a second direction that is orthogonal to the first direction.

Claims 6-20 all depend, either directly or indirectly, from claim 1. Because claim 1 is not obvious in view of Hesnan, then claims 6-20 are necessarily nonobvious in view of this reference. None of the secondary references cure the defect in the teaching of Hesnan. Thus, claim 1 is not obvious in view of Hesnan combined with any of the secondary references. Because claims 6-20 all depend from claim 1, then these claims are necessarily nonobvious in view of Hesnan combined with any of the secondary references..

In view of the comments provided above, reconsideration and withdrawn of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

CONCLUSION

In view of the foregoing amendments and comments, it is respectfully submitted that the present application is fully in condition for allowance, and such action is earnestly solicited. If any minor issues remain which could be resolved by telephone, the Examiner is invited to contact the undersigned at the number provided below.

Respectfully submitted,

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